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The Canada School Journal.

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THE CANADA SCHOOL JOURNAL.

An Educational Journal devoted to the advancement of Literature, Science, and the teaching profession in Canada.

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It is announced that chairs of political economy in Yale and Williams Colleges have recently been filled by the appointment of protectionist professors. One of these professors in his inaugural address is said to have made a number of "points" in favor of protection to native industry. It is rather belittling to professional dignity that appointments to chairs of philosophy should be made on the ground of the special creed of the candidate on a particular point, rather than on the broad and high ground of his knowledge and ability. No man who stands committed beforehand to a theory or dogma can come to the study and teaching of his subject in the true and scientific spirit. It will be a bad day for liberal culture when the chairs of philosophy in the universities are filled by advocates and partisans.

The New York *Christian Union* makes a strong plea in favor of the proposed national aid to education in the Southern States, on the ground that it is an act not of benevolence, but of justice—not a charity, but a debt. The negro population at the South, it insists, is a national burden, and it would be most unjust to leave it to be wholly borne by those who happen to live where that population is centred. The North

helped to bring the slaves into the country, to legalize slavery in the Constitution, and to extend slavery and fasten it upon the nation. The North did nothing to get rid of slavery until compelled to act in self-defence; it then emancipated the slaves instantly by proclamation, and afterwards enfranchised the freedmen. The North cannot, therefore, now turn round and coolly say to the South, "These ignorant people are your people, and you may take care of them." All of which seems fair and cogent reasoning. Might it not have added, "The North emancipated the slaves in self-defence, and is now bound to educate them in self-defence"?

A correspondent of the *Citizen*, of Boston, U.S., holds that "teaching in civics should begin on the day when the child enters school." It may, perhaps, be necessary to premise that the new word "civics" is used to denote the science of citizenship. The school certainly fails in one of its highest duties if the whole course and influence of its training do not tend to fit the future men and women to become good citizens, whatever may be thought as to the desirability of adding a new science, under the name of civics, to the already overgrown curriculum of the Public School.

The lady teachers of Toronto can see no good reason why there should be so wide a discrepancy between the salaries of male and female teachers when both are doing the same work, and they have been telling the Trustees so with some effect. An improvement has been made in the scale so far as the female teachers are concerned, while that for male teachers remains unchanged, notwithstanding they also put in a claim for increase. The Finance Committee have agreed upon a scheme fixing the rate of women's remuneration upon the basis of \$300 the first year, and an annual increase of \$24 until a maximum of \$636 is reached after fifteen years of service.

The letter of "A Country School Teacher" in our last issue should cause the cheeks of trustees, parents, and inspector, in the place in which such a state of affairs can exist, to glow and tingle with shame. A school-room, 20x30, so full of smoke, that three broken window-panes cannot give it passage out of doors, children obliged to wear cloaks, teacher going home with aching eyes, etc. What a picture! And all this within fifty miles of Toronto! Where is the inspector who can permit such an outrage on the teacher, the children, and the public? Are there any more such in Ontario? Our correspondent says such institutions are by no means marvels in some parts of the country. Show them up, teachers, and put the guilty parties to shame!

A good deal of discussion has been had in England on the subject of over-pressure in schools, but recent statements go to show that the educational system of Norway and Sweden

seems far more grievously against the health and happiness of the little ones. It is said that in the Swedish high schools seventy-one per cent. of the pupils are affected with short-sightedness, and in the middle-class schools forty-one per cent. This seems too bad to be true, but becomes quite credible in the light of the further statement that in the middle-class schools forty-eight hours, and in the high-class schools eighty-eight hours per week are required for study and recitation. The schools of Sweden stand very high, but if these accounts be true, their fancied excellence is purchased at an enormous and suicidal cost.

The following from the *American Teacher* is so much in line with a course of remark recently made in these columns that we quote it by way of supplement:—

"Boys and girls, even when very young, can be educated to pronounce judgment on questions of right and wrong. Under proper conditions the moral judgment may be trained by calling upon pupils to pronounce upon the conduct of their companions, and made to feel that they are responsible for a just decision. The judicious teacher can often appeal to pupils, in good faith, in regard to awarding commendation or in pronouncing a penalty, and their keenness and honesty will often surprise him. By similar methods valuable lessons in practical morality and in the exercise of personal judgment may be taught that will prepare them to act in future life in the jury-box."

The *Mail* makes a vigorous onslaught on the Department of Education, on the ground of its alleged attempt to manufacture text-books for the use of the public schools by hack-work. The *Mail* asks: "Is there another country in the world where the head of the Department of Public Instruction would think for a moment of saying, 'I am going to make a change in the text-books now in use in all the schools, and will have a new set made to order. I will have my friend A. to prepare a set of readers; B. to write a history; C. to compile a geography; D. to get up a set of drawing books, &c.?' " Such a method is utterly indefensible. Teachers and pupils want the best text-books that can be produced, and have a right to them. But how absurd it is to suppose that our Education Department is surrounded with such a galaxy of learning and talent that its head can, at any moment, put his finger upon a man competent to write a book equal to the best written by the foremost teachers and scholars of the day.

The Senate of University College, Liverpool, now incorporated into Victoria University, is said to be preparing a "business curriculum," suited to the special wants of those who are to become clerks and apprentices. There is certainly no good reason why the wants of clerks and apprentices, and of farmers and fishermen, too, should not be as much consulted in such institutions as those of lawyers and doctors. But one becomes bewildered and frightened by the innumerable specialties which it is proposed to engraft into the common stock of the college course. The day seems fast approaching when the general course shall be nothing, the specialties everything. Would not the more logical and excellent way be to eschew all specialties in an institution devoted to liberal culture, and to

educate pupils simply as men and women, leaving the specialties to be provided for by private institutions, and paid for, on true business principles, by those who want them for commercial purposes? Certainly there is no need in these days that any fresh inducements should be held out to tempt the young into business pursuits, whatever may be said in favor of seeking to give them an impulse at college in the direction of agriculture and other industrial pursuits demanding higher grades of intelligence and skill.

Some of the papers have justly pointed out the absurdity of the plan of promotion hitherto followed in the city schools. According to this short-sighted policy the teachers are promoted from one class-room to another, *i. e.*, from a younger to a maturer class of pupils, and the salaries graded according to the rooms. Such a system discards a large part of the benefits of experience. By the time the teacher may be supposed to have become skilled in dealing with the minds of children at a certain age, she is taken to another room to commence experimenting afresh upon those at another stage of advancement. Such a mechanical system also ignores the fact that some teachers can succeed best with little children, others with those of larger growth. There can consequently be no study of special qualifications, no regard paid to native talent and special fitness. The same mistake in regard to the first principles of pedagogics meets us in the announcement that "the teachers in the kindergarten schools had their salaries increased from \$150 to \$250 per year." As if the very highest talent and ability were not required in the kindergarten teacher, and in the teachers of the infant classes in the public schools! Clearly the special inducements, if any, should be offered to keep successful teachers in the departments in which they have achieved success, rather than to draw them away into new and untried spheres.

The Week points to the facts that, out of the ninety-six young women who last year took the university examinations, but eleven entered University College, and that this year the eleven are reduced to ten, as proof of the failure of the co-education movement to do more than educate a few school-teachers. As regards the general education of women, it holds that it was a false step, which, instead of advancing, will retard the cause by standing in the way of more rational measures. The inference is certainly a pretty large one from the premises. *The Week* seems either to forget, or not to know, that the university examinations for women were established long before the wondrous favor of admission to University College lectures was granted to them. These examinations are, in reality, an end in themselves, rather than a means to the end of a college course. The greater number of the ladies who take them now, as before the doors of the college were opened to them, do not, probably, intend to advance farther, or, if they do, mean to advance by the same route, that of private study and the periodical examinations. Consequently the figures quoted prove nothing, certainly nothing discouraging to the advocates of co-education. As a matter of fact, when all the circumstances are taken into the account, and when it is borne

in mind how small for many years was the number of young men entering University College, the number of women at present in attendance will be seen to be quite as large as any reasonable friend of the movement could expect at so early a stage.

We have never, however, regarded the admission of ladies to University College as by any means a solution of the problem of higher education for women. It was simply the concession of a right—an instalment of fair play. The university and its college are national institutions, and the policy which shut out one moiety of the nation from participation in their advantages was too old fogyish, too glaringly unjust, to be long tolerated in this free and democratic country. The admission of women to the lectures at University College costs the Province nothing, nor do we see how it stands in the way of any "more rational measures." We have always believed that but a small proportion of the number of young women who are ambitious of a thorough education will go to the University College, but that the right of all who wish to do so is clear. Meanwhile, those friends of higher education for women who do not like co-education, should bestir themselves to provide for the young women of Ontario some other and better means of securing the advantages of a full collegiate course. *The Week* should be in the van of the promoters of such an institution. We venture to predict that the warmest advocates of optional co-education will not be the most lax in supporting the movement.

Apropos to this important matter of women's higher education, we are glad to see hopeful indications of the success of the Donalds endowment and method at McGill. Sir William Dawson is said to have stated, at a recent meeting of the Ladies' Educational Association, at Montreal, that the total number of students now in the college under that endowment is fifty-one. Of these, twelve are undergraduates, nine are partials, taking three or more courses of lectures, the remainder are occasionals, taking one or two courses of lectures. The classes open to women are those in Latin, Greek, English, French, German, logic, mathematics, chemistry, and botany. At present there are regular students only in two years, but next session there will be regular students in all the years. In the arrangements for the third and fourth years it will be provided that there shall be separate classes for women in all the ordinary subjects up to the standard for the degree, giving them all the options enjoyed by male students. In each subject the lectures to men and women will be delivered by the same professor or lecturer, and the examinations will be identical. The degrees to beginners have not yet been formally decided by the corporation, but it may be considered as settled that they will be the same for women as for men. Have we no Donald Smiths in Ontario?

It should not be forgotten by the friends of university education for women that there is here, in Toronto, a public educational institution which has cost the province an immense amount of money, and which has completely outlived its

special usefulness, if it ever had any. This institution could not be put to so good a use in any other way, as by its conversion into a first-class Ladies' College. It ought to be immediately available for that purpose. Why a professedly liberal Government, with a Minister of Education ambitious of being progressive, should continue the costly anomaly and anachronism of Upper Canada College for a single year is hard to understand. The people do not want it, for they have their Collegiate Institutes, which are doing at least equally as good work at vastly less expense. There is now no family compact whose sons have to be educated and provided for at the public expense. We have no privileged classes for whom the country is under obligation to make special provision. In a word, Upper Canada College has to-day no *raison d'être* that will stand a moment's scrutiny. The sooner it is transformed into a useful and popular institution the better. Its handsome income, supplemented by the gifts of wealthy citizens, would suffice amply for at least the nucleus of a Provincial Ladies' College. Mr. Ross might make himself a public benefactor by bringing about so beneficial a change.

Special.

ELEMENTARY CHEMISTRY.

WATER.—Continued.

ORGANIC IMPURITIES.

The organic matter may be either of vegetable or animal origin, the latter being by far the most injurious; but water containing any considerable quantity of vegetable matter, partly in suspension and partly in solution, is decidedly unwholesome. Water may be tested for organic matter by the following methods:—

(1) *Potassium Permanganate.*

Exp. 11.—Fill a test-tube nearly full with the water to be examined, and add, by means of a glass tube, as much potassium permanganate as will impart a distinct pink tinge after stirring with the tube. Then fill another test-tube of the same size with distilled or rain water, and add the same quantity of permanganate solution. Place the test-tubes side by side on a sheet of white paper, and note any difference between the two tubes which may speedily or subsequently take place. If decoloration takes place rapidly, there is a strong probability that organic matter of animal origin is present, whereas slower changes indicate that vegetable matter is present. There are other substances, such as nitrates, iron, and sulphuretted hydrogen, which would produce the same effect as the organic matter. The presence of nitrates indicates that the water is unfit for use; the other two are not likely to be present in ordinary water. The decoloration is owing to the oxidation of the organic matter by the oxygen of the permanganate. A sort of rough estimate of the amount of organic matter may be made by observing the relative quantities of permanganate which different waters decolorize.

(2) *Chlorides.*—The presence of chlorides in water is always very suspicious, not that chlorides are in themselves of import-

ance, but because their presence serves as an indication of sewage contamination, for pure waters are almost free from sodium chloride, whilst sewage is highly contaminated with it.

Exp. 12.—Half-fill a test-tube with water, acidulate with a few drops of nitric acid, and add silver nitrate solution. Four grains per gallon of sodium chloride give a turbidity; ten grains a slight precipitate; twenty grains a considerable precipitate soluble in ammonia. Good water should only yield a slight haziness.

(3) *Ammonia*.—The presence of free ammonia in considerable quantities in water points to sewage contamination. Good potable water should contain very little free ammonia. Its presence may be detected as follows:—

Exp. 13. To a test tube half full of well water add five or six drops of Nessler's Test (Art. 196). A yellow or brown color indicates sewage contamination.

Naturally Occurring Waters.

(1) *Rain Water*.—Although this is the purest form of natural water, still it contains certain impurities which are washed out by it from the atmosphere. It invariably contains ammoniacal salts, sodium chloride, and organic matter of various kinds.

(2) *Spring Water*.—The nature and amount of material in spring water depends on the nature of the strata through which it passes. The salts which most commonly occur are (1) the bicarbonates and carbonates of calcium and magnesium, (2) the sulphates of calcium and magnesium, (3) the alkaline carbonates, chlorides, sulphates, nitrates, or silicates. The gaseous constituents consist of oxygen, nitrogen, and carbon dioxide.

(3) *River Water*.—Although river water contains a smaller amount of salts, it is usually less fitted for drinking purposes than ordinary spring water, as it usually holds in solution a larger proportion of organic matter of vegetable origin, derived from the extensive surface of the country which has been drained by the stream.

(4) *Sea Water*.—This usually contains about 3½ per cent. by weight of substances in solution, the one which is present in by far the largest quantity being common salt, NaCl.

QUESTIONS AND EXERCISES ON WATER.

1. Water is said to be a compound of oxygen and hydrogen; describe experiments in proof of this view.

2. How is the composition of water ascertained by the eudiometer? After exploding a mixture of oxygen and hydrogen, 0.17 gram of water was obtained, and 11.5 c. c. of hydrogen remained. The temperature was 15°C. and the pressure 760 mm.; find the volume of the mixed gases.

3. Explain how the action of hydrogen on copper oxide may be used as a means of determining the composition of water.

Berzelius and Dulong heated 53.821 grams of copper oxide in contact with hydrogen. The residual copper weighed 42.989 grams, and 12.197 grams of water were obtained. Calculate from this data the percentage composition of water.

4. What are the characteristics of pure water, and how may water be obtained in a pure state? How may drinkable water be obtained from sea water?

5. At what temperature is water at its point of greatest density? How may this be shown experimentally?

What effect would continuous frosty weather have on lakes and rivers if water expanded and contracted according to the same rule as a piece of solid iron?

6. What is meant by the boiling point of water? How does the pressure of the atmosphere affect the temperature at which water boils?

Two thin flasks are filled with water and sealed up. One is placed in boiling water and the other in a freezing mixture. What occurs in each case?

7. What is meant by the term *hardness* as applied to water? Give the earthy impurities which are the frequent cause of hardness in water and of deposits in boilers, and state how they are removed. What is meant by saying that a given specimen of water is 10 degrees of hardness?

8. Some hard waters can be softened by boiling, whilst others cannot. Explain the cause of this, and describe any other methods for softening waters.

9. A sample of water contains in 100,000 parts, 16 parts of calcium carbonate, 5 parts of calcium sulphate, and 7 parts of common salt; what is its hardness, and how much will this hardness be reduced by boiling the water for half an hour?

10. Supposing a certain water contains 20 grams of calcium carbonate in the gallon, and that the following equation represents the action of a solution of soap on calcium carbonate, $2\text{NaC}_{18}\text{H}_{35}\text{O}_2 + \text{CaCO}_3 = \text{Ca}(\text{C}_{18}\text{H}_{35}\text{O}_2)_2 + \text{Na}_2\text{CO}_3$. What weight of soap must be added to the water before a permanent lather can be produced in one gallon of water?

11. How may the presence of lead in waters be accounted for, and how may its presence be detected?

12. How may the presence of organic matter in water be detected, and how would you distinguish organic matter of vegetable origin from that of animal origin?

NOTES ON ENTRANCE LITERATURE.

LESSON XII.—THE TRUANT.

This lesson consists of what is called an "allegory." An allegory is a tale or some other kind of representation in which the words used and the events narrated have a meaning different from that which appears upon the face of the writing. It is generally used to teach some lesson of experience or morality. One of the most beautiful of short allegories is to be found in the 80th Psalm, 8th and following verses. An allegory may be prolonged to any extent. The longest and best sustained allegory in the English, or, in fact, any language, is Bunyan's "Pilgrim's Progress."

Let the pupils study the lesson carefully, until they feel sure they understand not only its general drift, but the exact truth intended to be conveyed in each paragraph and incident. Then, as the lesson proceeds, let them be required to explain clearly in their own language the meaning of each part.

NOTE.—In the following the numbers refer to the paragraphs taken in order.

1. (a) *Daffdownilly*.—The name of a flower, the daffodil or daffodilly, a species of narcissus.

(b) *Flower*.—The author may have had in mind Matt. vi., 28.

(c) *Labor*.—Define. Why would doing only what is beautiful or agreeable not be labor?

(d) *Mother*.—If this word is to be allegorized, it must mean nature, or the arrangement of things as they are in the world. But this is probably carrying out the allegory more minutely than the author intended.

(e) *Toil* is represented as a schoolmaster, because of the valuable training it gives to mind and muscle.

2. (a) *Worthy character*.—Mention some of the ways in which toil does good to children and grown people.

(b) *Had dwelt*.—Explain the allusion.

3. (a) *Unless a lad*, etc.—The only way to enjoy labor is to enter into it heartily and cheerfully.

(b) *Ugly*.—Note the primary and proper meaning of this word. Explain how it comes so often to have the secondary meaning of *ill-natured*.

4. *Bear*—The first meaning of this word is *to carry*. Let the pupil trace the transition to that of *to endure*.

5. (a) *Rambles*.—Note the well-chosen word. He had no definite object in view.

(b) *Only some bread*, etc.—The usual lot of those who seek to escape toil.

(c) *Grave*—Serious, thoughtful; *sedate*, calm, settled. Note carefully the nice distinction in meaning between these two words.

(d) *Trudging*.—Walking with a steady, measured gait, as if on a long journey.

6. *Severe*.—His purpose was kind, his method necessarily stern.

7. *Ingenious*.—Frank, open. Distinguish carefully from *ingenious*, with which it is often confused.

8. *Deal*.—Properly, a part or portion. See Ex. xxix., 40, "a tenth deal of fine flour," which is supposed to mean a tenth part of the most common measure, an ephah.

9. *Pleasant*.—Most indolent persons, and especially children, are apt to think any other kind of labor more amusement as compared with their own.

13. (a) *Employer*.—Toil presides over every form of industry.

(b) *Drops of sweat*.—Compare Gen. iii., 19.

(c) *Precisely the same*.—Toil is toil. Its general characteristics are the same, no matter how varied the forms it assumes.

14. *More disagreeable*.—The physical toil of a farmer is less attractive to most persons than the mental toil of the schoolmaster.

15. *Quoth*.—An old English verb, used only in the second and third persons of the imperfect tense. It always precedes its subject.

16. *Making merry*.—A familiar expression. Making (themselves to be) merry is the probable construction.

18. *Holding a fiddle-bow*.—Not even a dance can be conducted without toil. Many men's pleasures are their hardest labors.

20. *Bred in France*.—An allusion to the love of gaiety characteristic of the French nation.

21. *Pray let us go*.—An elliptical expression. "I pray thee do thou let us go" suggests the grammatical explanation. Let the pupils parse the three verbs.

22. *Don't like the looks*.—Toil disguised as pleasure is often the most repulsive form of toil to one who sees it aright.

23. *Parlor*.—Explain. In what shape would Evil appear in the parlor?

24. *Repose*.—Distinguish from rest.

26. *Most miserable*.—The itinerant musicians and pedlars and the begging "tramps" must really lead very toilsome lives in their efforts to escape labor.

29. It was the toil he endured in seeking to run away from toil that taught him the lesson he had learned, and made him willing to return to toil.

30. *Whit*.—This is originally the same word as *wight*, a thing or being. It means here and usually a point, the smallest part. Some make aught a contraction of a *whit*, which seems rather far-fetched.

Compose short sentences to illustrate the meaning and use of the following words: *Affirmed*, *severe*, *ugly*, *ramble*, *trudge*, *grave*, *sedate*, *ingenious*, *torpid*, *whit*, *approbation*.

Construct sentences to distinguish between the following pairs of words: *Character*, *reputation*; *custom*, *manner*; *rambles*, *journeys*; *grave*, *sedate*; *ingenious*, *ingenious*; *miserable*, *wretched*; *diligent*, *busy*.

Conjugate the verbs of which the following are forms: *Done*, *driven*, *chose*, *run*, *bejan*, *caught*, *see*, *bred*, *went*, *lain*.

FUTURE OF OUR EDUCATION.*—(CONTINUED).

Principal A. H. McKay, Pictou, N. S.

But the greatest transformation in the future is likely first to affect the common school stage of our system. In addition to the present subjects of instruction, more attention shall be given to physical culture both practically and theoretically. Secondly, the powers of accurate observation and induction shall be developed under the heading of the science of common things. And thirdly, on account of the changes introduced by modern manufacturing machinery, the decay of apprenticeship, and its own general utility, as well as the indirect influence on the general education, manual training may be a part of the general course. The training of the muscles of the hand to obey the will so as to execute the designs in the mind with, say, the ordinary tools used in wood work alone, can at a glance be understood to be a great advantage to any would-be young mechanic, artisan, or farmer. Instead of interfering with his moral and intellectual development in school, it would probably in every case assist. The common school of the future is going to be encyclopædic—to be a university of letters, of the arts, and of the sciences—but still a child's university. Why? Because it is desirable that the child should grow "pari passu" on all sides of its being. One-sided development forms but a caricature. Thus symmetry of development is now even more important for the youth who is destined for the pursuit in some department of the higher education; as sooner or later, from the vastness of the realms of knowledge, he must become a specialist. To the average extent, however, he is a full, rounded man under this system.

But shall there be a school time for this full development of all parts of the child's nature in this new order of things? Yes, enough and to spare, if we can cast out what is not only useless but injurious. The Athenians, so runs the fable, had imposed upon them by Minos the terrible tax of seven youths and seven maidens to be sent every nine years to feed the monster Minotaur, enclosed in the endless mazes of his labyrinth in Crete. The third ship bearing this tribute was on the point of sailing when young Theseus bethought himself of the possibility of slaying the monster. The thought had to come first. The gallant deed of the hero soon followed. But there is a more terrible tax imposed on English-speaking people by the Minos of an unthinking, unreasonable, and we can now say, ignorant fashion. The futures of thousands and tens of thousands of youths and maidens in English lands are sacrificed annually—and the law compels it—sacrificed to the hybrid cadmean Minotaur of English spelling. Taking the proportion of time absorbed in home study and school work in learning spelling and mechanical reading alone, in the school life of Nova Scotia, England, and the United States, above and beyond the time necessary to master the same subjects with phonetic spelling, two years are lost, absolutely. And worse than lost, as much more injury than good can be shown to result from it. Normal schools all over the English globe have shouted at it from morning to evening with the "phonic," "phonetic" and "say" method, "O Baal hear us!" But yet spelling remains the task with young pupils, and tends to make the school life so repulsive to many, that it is certainly chargeable with nearly all the illiteracy in English-speaking countries, and with a great deal of the truancy and general disgust of learning in elementary schools, and with the most mischievous and systematic species of cramming found in any enlightened nation on the earth. The child does not yet understand English spelling. How can the spelling in foreign languages lessen the task of memorizing derived English irregular words, under such circumstances? It is a puro gram for him, with all the mischievous

effects of that notorious system of instruction, intensified in its evil effects by its commanding position at the very portals of our educational system. And after it is crammed, what is it? Listen to one out of a thousand testimonies from one of the greatest philologists of the age. Styrace, professor of philology in Oxford, speaks thus: "English speaking has become a mere series of arbitrary combinations, an embodiment of the wild guesses and etymologies of a pre-scientific age, and the hap-hazard caprice of ignorant printers. It is good for little else but to disguise our language, to hinder education, and to suggest false analogies." Now, with a phonetic spelling our children could learn to spell and read mechanically, reasonably, pleasantly, and correctly in a few months. As soon as this is seen our people shall rise up in their might, demand that the sacrifice be stopped and the Minotaur slain. Already young Thesus has resolved. The embodiment of literary learning in England and America, as represented in the philological societies of the two nations, had with unanimity agreed upon a revised if not a complete phonetic spelling. The greatest names in English science, poetry, and the councils of the empire, have declared in favor of spelling reform. University corporations, state governments, and even the national governments of the United States, have already initiated action in this direction. The only real difficulty now is agreement upon the most practical scheme. Within the last year the German governments of Europe, by edict, completed a reform in its already very perfect phonetic spelling. Take away the forces of government prescriptions and examinations which compel us at the expense of much time, money, and learning to adhere to our present unscientific and chaotic system, and a spontaneous rush for improved orthography would be made at an infinite number of points. This shows that the work of our governments in the matter must be chiefly that of the co-ordination of these forces of development so as to produce a uniform written language in all English countries when the change must come. In the future schools of Nova Scotia we may yet live to see a useless, mind-damaging, and time-wasting subject discarded, and in its place, useful, mind-developing, and fascinating subjects substituted. Two years more can be spent on literary (not letterary) subjects in the study of language, science and art. The study of the Greek and Roman classics can be commenced two years earlier, by the candidate for the classical course, while the mastery of the English language and the first principles of science shall be two years in advance with the other students. The academy and the university will next feel the impulse as strongly as the common schools.

In addition to this gain the common school work shall be simplified by the general adoption of decimally divided weights and measures throughout the Dominion. The *Metric system* already looming up in our high schools and universities shall sweep from Elementary Arithmetic the "compound rules" and all need of them, into a chapter in the high school mathematics under the heading "Other systems of notation." This shall be another valuable acquisition for the bone and sinew of our land who want the most practical and useful instructions for their short school course; and a boon also for the high school candidate whose youthful zeal to excel in accuracy and rapidity of execution need not be prematurely checked by the attempt to fully comprehend an unnecessary multiplicity and complexity of mathematical notions before the maturity of his mathematical faculty.

In these halcyon days there shall be no more long hand script outside of the antiquary's cabinet and perhaps legal documents, where length, to use an euphuism, may be a technical necessity. The child of five will commence with Pitman's strokes and curves, a common course of writing and drawing.

Phonographic or stenographic writing will, in all probability

precede the introduction of phonetic spelling. The pupils of those days shall wonder at the roundabout, time-consuming ways in which their grandfathers did things, who in addition to their fancy for long, ugly spellings which cost them two or three years of their time and a per centage of their intellectual versatility, should have also indulged in a system of writing which would take an hour of busy work, when it could be done in fifteen or twenty minutes. They will probably term their grandfather's age, the age of leisure, when time had to be passed away. But wouldn't we, busy men, frown in our very graves could we hear so sarcastic a compliment from our dear grandchildren!

A. H. McKAY.

Examination Papers.

EDUCATION DEPARTMENT, ONTARIO.—DECEMBER EXAMINATIONS, 1885.

SECOND CLASS PROFESSIONAL.—NORMAL SCHOOLS.

HISTORY OF EDUCATION.

Examiner—J. F. White.

1. Write a paper on Roman Education, and briefly compare it with that of Greece.
2. What were the chief aims of the Realists as distinguished from the Humanists? Give, in particular, the reforms advocated by Comenius with comment of your own as to their worth.
3. Give an account of the system of the Jesuits, and estimate the value of their services to education.
4. What are the views advanced by Milton in his "Tractate on Education," and to what extent are they followed by teachers of the present day?
Compare his utterances on this subject with those of any other eminent Englishman.
5. Write an account of Pestalozzi and his work.

THE PRINCIPLES OF EDUCATION.

Examiner—J. E. Hodgson, M.A.

1. Give the substance of Mr. Fitch's views on the following questions:—
(a) "Is Education an Art or a Science?"
(b) "What constitutes a Liberal Education?"
2. What general principles should be kept in view in framing a time-table?
Illustrate your answer as clearly as you can.
3. State and illustrate the difference between *deductive* and *inductive* methods in teaching.
4. Write notes on the use of *globes* and *maps* in teaching geography.
5. "And thus it will be seen that of the two modes of teaching history, * * * * I greatly prefer the second." What are the two modes, and what are the grounds of Mr. Fitch's preference?

SCHOOL ORGANIZATION AND MANAGEMENT.

Examiner—J. J. Tilley.

[NOTE.—Only five questions are to be answered.]

1. Describe a properly organized school.
2. Discuss the principles involved in successful class management with reference (1) to the teacher; (2) to the pupils.
3. What is the object of classification?
Name and briefly discuss its leading principles.
4. State what you consider the best means of (1) securing obedience; (2) sustaining attention; (3) stimulating to exertion.
5. Discuss good discipline under the following headings:—(1) characteristics; (2) results; (3) motives to be cultivated; (4) habits to be formed.

6. Give rules for the judicious infliction of punishment.

PRACTICAL ENGLISH.

Examiner.—*J. E. Hodgson, M.A.*

1. Frame sentences to exemplify the correct use of the following:—aggravate, ameliorate, calculate, clever, curious, galsome

2. Distinguish the meaning of the following:—ability, capacity; bravery, courage; contemptible, contemptuous; diction, style; convene, convoke; education, erudition; novice, amateur.

3. Define allegory, antithesis, barbarism, solecism, climax, hyperbole.

4. Point out in what respects the following words or phrases are illogical:—widow-woman, anxiety of mind, authoress, ice cream, trifling minutiae.

5. Correct the following sentences:—

- (a) She performed her promise of being discreet to admiration.
- (b) A season more favorable to the ascent and spawning of fish can scarcely be imagined—certainly has never been surpassed.
- (c) It would not suit the rules of art, nor of my own feelings, to write in such a style.
- (d) The riches of the temple gradually disappeared, but by whom, or when, is not known.
- (e) It is a persuasion at which we all smile in each other and justify in ourselves.

MACBETH.

Examiner.—*John Seath, B.A.*

1. Illustrate from Macbeth the following statements:—

(a) "We find exemplified in every tragedy of Shakespeare some dominant passion, whose workings the poet depicts, and from which he deduces a moral lesson."

(b) "Shakespeare, does not believe in a sudden transformation of a noble and loyal soul into the soul of a traitor and murderer."

(c) "Contrasts of character from one of the simplest elements of dramatic interest."

2. Write notes on the following passages, explaining and commenting on the chief difficulties, developing the beauties of thought and expression, and bringing out the spirit as fully as possible:—

(a) To-morrow, and to-morrow, and to-morrow,
Creeps in this petty pace from day to day,
To the last syllable of recorded time;
And all our yesterdays have lighted fools
The way to dusty death. Out, out, brief candle!
Life's but a walking shadow; a poor player
That struts and frets his hour upon the stage,
And then is heard no more: it is a tale
Told by an idiot, full of sound and fury,
Signifying nothing.

(b) But let the frame of things disjoint, both the world suffer,
Ere we will eat our meal in fear, and sleep
In the affliction of these terrible dreams
That shake us nightly; better be with the dead,
Whom we, to gain our peace, have sent to peace,
Than on the torture of the mind to lie
In restless ecstasy. Duncan is in his grave;
After life's fitful fever he sleeps well;
Treason has done his worst; nor steel, nor poison,
Malice domestic, foreign levy, nothing,
Can touch him further.

GRAMMAR METHODS.

Examiner.—*J. E. Hodgson, M.A.*

1. "The direct operation and use of grammar rules in improving our speech and making it correct, can hardly be said to exist at all."—*J. G. Fitch.*

Illustrate this statement as clearly as you can.

What, then, is the educational value of English Grammar?

2. Show how you would introduce a class to the knowledge of the functions of the parts of speech.

3. Give notes of a short lesson on word-building.

4. "Do not ask your scholar to write on mere abstract themes." Why not? What course should be pursued, and on what grounds?

5. How would you make it clear to a young class that the same word may be used as different parts of speech?

6. You gave the diligent pupil a book.

In teaching a class the parsing of the above sentence, how would you explain to them the meaning and the propriety of the following grammatical terms:—*2nd person, strong conjugation, qualifying, indirect object?*

Practical.

BUSY WORK IN READING.

Young children learn almost exclusively by doing. They cannot study in the sense of conning a book to make themselves master of its contents. Hence the teacher's art consists in devising means of keeping them busy which shall advance them in the branches appropriate to their age. The primary teacher, who knows how to keep the children employed with interest in ways which contribute to their advancement in school branches, knows the art of teaching them. How shall they be kept busy in learning to read? (1) By means of slips of paper on which have been written words familiar to them which they are to build into sentences after models on the board. (2) By letters on slips of paper which they are to build into words according to models on the black-board. (3) By word-slips out of which they are to make new sentences, which they will afterwards copy on their slates. (4) By selecting from a collection of word-slips those which they know, and correctly writing them on their slates. (5) By copying on their slates part or all of the reading lesson. (6) By making answers to questions given them on the black-board or on slips. The answers may be made with word-slips furnished for the purpose, or may be written out on the slates if the children are old enough.—*Wis. Journal of Education.*

INQUIRE INTO IT.

No teacher who professes to be a seeker after truth can neglect an examination into the merits of the Tonic Sol-fa system of teaching music.

The true teacher does not ask concerning a method, Is it the method of Socrates, or Ascham, or Pestalozzi, or Page, or Parker, but he asks what true educational principles underlie this method.

Let us apply to the teaching of music some of the tests that we would apply to other school branches. A teacher of the "New Education" is asked: "Why do you teach arithmetic?" "That my pupils may have correct ideas of number and its properties." "For what purpose?" "For mental growth and practical use in the business of life. But the "fossil" says: "Oh, no! we teach arithmetic for its tables, its rules, its processes." We are asked: "Why do you teach music?" "That the children may sing." "Why should they sing?" "It cultivates taste, is refining in its influence, is beneficial in moral training, and has high value as a means of physical culture." Up jumps our professor of music and says: "Oh no! singing is not the purpose of music, but that pupils may know about the staff, about clefs and bars, crochets and quavers and demi-semi-quavers."

Why do we teach reading? That the child may get thought. Arithmetic? That he may comprehend number. Language? That he may express thought. If we give the child simply words to pronounce, he gets no thought. If we teach figures, and not number, through objects, he gets no true idea of number. If we give him grammatical rules, and do not help him to talk and write

he gains nothing in expression. Our methods are founded on wrong principles, or rather, they are not founded on right principles.

If then, our purpose be to teach the thing, music, and we place between it and the pupil an array of symbols, new and strange, and which only those succeed in interpreting who make a life business of it, then is our method objectionable.

The earnest, unprejudiced teacher will ask: "Is there no direct way into the Temple of Music?"—*Wm. J. Solly, in Teachers' Institute.*

HOW TO TEACH FIGURES.

Teach figures precisely as you teach words, by using the simple law of association. Show a number of objects and write the figure. Write the figure and have the pupils show that number of objects. Show a number of objects and have the pupils write the figure. This may be done with each number from 1 to 10 inclusive. It is a good plan to have the class at the blackboard, each pupil having a marked-off space two feet wide. The teacher may show the objects (of different kinds) and have pupils indicate the numbers they see by writing figures. The figures should be written neatly in columns. If a pupil is inclined to copy, give him a column to write by himself.—*Exchange.*

TRY THIS PLAN.

Let the teacher ask a question and then suddenly ask a pupil to repeat it. So, too, call a pupil to repeat an answer first given by another pupil, then ask another pupil what the question was that was answered. Ask a pupil a question and when it has been answered, put it suddenly to another pupil to be answered, without repeating the question. All this will lead pupils to pay strict attention to the work of the recitation. Questions are repeated and repeated too much in recitation, and this repetition, so to speak, hires pupils not to pay attention. In speaking either oral, or written, the word should be pronounced by the teacher and then by the whole class, and that should be the end of it.—*Ex.*

Educational Notes and News.

Mr. Angus Graham, of Ekfrid, has engaged to teach in S.S. No. 3, Mosa.

Mr. Morrow, of Beamsville, is the assistant master in Dutton High School.

Mr. Wm. Branton has been re-engaged at Winchester Springs at an advanced salary.

The Omemece High School has now a larger attendance of pupils than has been known for many years.

Miss Amelia Pound, who last year had charge of the Richmond school, has been engaged to teach in No. 14, Malahide.

Mr. Sanderson was appointed to the vacant Mastership in the London Collegiate Institute. He is a graduate of the Toronto University.

Mr. M. Park, who attended the Elgin Model School last term, and obtained a third-class certificate, is teaching the Glen Meyer school, Norfolk county.

Orono Public School has in connection with it a flourishing Literary Society. A recent performance, consisting of readings recitations and songs, was a great success.

Mr. H. S. Dougall has been succeeded in the Iroquois Public School by Mr. Wm. Bowen. Mr. Dougall intends to take up matriculation at one of the Collegiate Institutes in the West.

Mr. E. L. White who taught No. 6 Winchester (West Winchester) last year, will rest this year. He is succeeded by Mr. Casey Smith, (2nd. Class) who will be assisted by Misses Edith Beach and Jane Johnson.

This year the Iroquois High School has offered prizes for competition at the July Examinations. The attendance is, consequently, somewhat larger than it was last year. Staff:—J. A. Carman, B.A., and A. T. Casselman, 1st C.

Mr. C. C. James has been appointed professor of chemistry in the Ontario Agricultural College, Guelph. Mr. George Ward, B.A., late principal of Brighton High School, succeeds Mr. James in Cobourg Collegiate Institute.

The large increase in the number of students now attending the Dominion Business College, Kingston, has compelled Messrs. McKay & Wood, the Principals, to find more accommodation on the next flat, and ere long a new building will be a necessity.

Miss Springer, fourth teacher in Goderich High School, has resigned. She is succeeded by Mr. George Sharman (First C.), of Clinton. The other teachers on the staff are H. I. Strang B.A., Head Master, Messrs A. J. Moore, B.A., and S. P. Halls, B.A.

Miss L. Levey, a former pupil of the Kirkfield Public School, who was successful in obtaining a third class certificate in July, 1885, is now engaged in teaching in the junior department of the village school and promises to make it a success.—*Woodville Advocate.*

The Collegiate Institute board, Strathroy, is advertising for a mathematical master at a salary of \$1,000. Mr. H. D. Johnson, the present mathematical master, will take the science department now under the supervision of Mr. Tom, who continues in that capacity until the new teacher has been appointed.

W. A. Whitney, M.A., who for twenty-seven years controlled the destiny of the Iroquois High School has retired from the teaching profession. Many of the most prominent men of Eastern Ontario have received from him the inspiration and power for a noble life. His retirement is a real loss to the teaching profession.

Morrisburg this year has an attendance larger than it has ever before had. It is not impossible that at an early date it may be a Collegiate Institute. Its staff consists of J. S. Jamieson, B.A., Head Master, Modern Languages; A. C. Smith, Drawing and Mathematics; Rev. —Bain, B.A., Classics; T. Jamieson, History.

Smith's Falls High School is prospering greatly under the Principalship of Neil Robertson, B.A., formerly of the Perth Collegiate Institute. The attendance has increased from 20 or 25 scholars to 76, and in a few days a third teacher will be added. We have no doubt that the school will present a good record at the examinations.—*Perth Expressor.*

Seaforth, with a population of 3,500, and a High School of seven years' standing, aspires to the possession of a Collegiate Institute. If large attendance and effective work are the proper factors, Seaforth can show both. Clinton is also ambitious on the same grounds. It is said that Ridgetown High School will be promoted shortly. Belleville should set up a claim also.

Mr. W. H. Bean, teacher of Scarboro Public School, gave a lecture in the school house on "Here and There in London." There was a large audience who appreciated the humorous manner in which the lecturer described certain personages, and his power of mimicry added considerably to the interest of the discourse. At the close Mr. Bean received a well-deserved vote of thanks.

A correspondent of the Forest Free Press writes:—Arch. C. Sturrett, teacher in a school near Watford, was last week fined for punishing a boy too severely or more than the law allows. The boy was playing truant and when the teacher sent another boy to tell him to come to school he sent back a message which is too profane to write, and when he came to school again received the punishment which caused the suit.

On Saturday 20th inst., the teachers of Bayham will meet in Vienna to organize a township institute. The following subjects will be discussed:—Literature for the fourth class, first steps in number, first lessons in reading, language and composition in junior classes. Friday afternoon, exercises. Reeve McCally will give an address on some of the difficulties a young teacher meets, and how to overcome them.—*St. Thomas Journal, Feb. 18th.*

The Board of Education, Peterboro', has decided that non-resident pupils of the Collegiate Institute, pay a fee of \$2.00 a month. The Principal, Dr. Tassie, was opposed to raising the fee, being of opinion that it would cause a number of the pupils to leave, and fearing two boys from Duro, who ranked high in the school, would go, he expressed his willingness to pay for them rather than have them leave. Pupils from Ashburnham are considered as residents.

The following teachers compose the staff of the Barrie Model School for 1886. Principal, T. O. Steele, Assistants, Messrs. R. R. Jennison and Geo. Henderson, and Misses L. D. Lee, E. King, E. Appelbo, E. Lee, M. Boys, A. Bird, A. Morris, J. Caldwell, E. Booth. There were 33 teachers in training last session of Model School all of whom passed.

Here is a recipe for liquid slating :

Shellac, 8 oz.) Dissolve shellac in alcohol, then add the other ingredients. Shake well and apply with a flat varnish brush. Board should be free from grease.
Lamp-black, 12 drachms,	
Ultramarine, 20 "	
Rotten-stone, 4 oz.	
Pumice-stone, 6 oz.	
Alcohol, 4 pints.	

Mr. Arch. McPhadden, a school teacher in the township of Brock, recently had some difficulty with a resident of this section, named McCutcheon, and the resident went to the school house, broke in the door, and assaulted Mr. McPhadden with a stick. For this offence McCutcheon was fined \$2 and costs by Justices Brown and Gillespie of Cannington. The school teacher is hired to do the hick, and it is not fair for the people to usurp the teacher's prerogative. *Whitby Chronicle*.

We wonder if people ever appreciate the fact that the teacher's life is not exactly a bed of roses. The hours spent in the school room are but a small portion of the time that true teachers put upon their work. Constantly their work is before them. The needs of individual pupils, the preparation of lessons,—for it is a poor teacher who does not study how to present each lesson—questions of discipline and method, all keep the mind active with thought upon the school duties. And yet we hear people who speak of the easy time that teachers have. Perhaps they do, but it is remarkable how few of them ever manage to find it.—*Central School Journal*.

We hear so much about teachers co-operating with parents. Almost every educational paper suggests it. We heartily believe in it. We realize fully the necessity of it. We would insist upon it, but at the same time it might be quite as well to have parents occasionally co-operate with the teacher. The teacher's burden might be lightened in a wonderful way were he sure that the home influences would be in his favor. A personal acquaintance between parents and teachers is a good thing. Parents ought to visit the schools that their children attend. Too often do they condemn and criticize the teacher, his manner and method, without making the slightest personal observation. It is a decidedly unjust mode of procedure; though we regret to say a common one.—*Central School Journal*.

A very helpful means of learning to spell well may be found in closely observing the forms of words as found in all correctly printed books. The eye "once schooled to serve the brain" in this respect soon becomes skilful in detecting false forms, and takes actual pleasure in the exercise. It is believed that many of our best English scholars acquired their habit of correct orthography from this fruitful and accessible source. We want less mental gymnastics in "turning down" in the spelling class and more actual study of word-forms with reference to the letters that make them up. We want to leave off teaching an amount of mere drill that the pupil will seek to forget, and begin to teach those things which he will wish always to remember. We want to leave off requiring the boys and girls to spell all the words in a given book and begin to teach them to spell the words in an ordinary letter.—*The Educational Courier*.

Children's voices are abused in most schools. Teachers in charge of classes, who do not understand the voice, like to have enthusiastic singing. There is credit to the teacher; it is a live class or school. The scholars are urged to more effort: loud, hearty singing is what is wanted and striven for. Power is the first requisite in the public estimation; to secure it, a cornet is brought into many a Sunday-school. Give us a good, rousing blast! Singers, to compete with it, must sing louder. The sensitive, quick, and willing ones respond as best they can, strong and hearty. "That's good!" says the teacher, "sing out!" Loud, coarse, vulgar shouting is understood to be music, and passes for the correct thing among many of the most estimable people. Now it is this coarse shouting that is fatal both to good music and the vocal organs.—*J. Woollet, in the School Music Journal*.

A successful Teachers' Institute for the teachers of Aylmer, Malahide, Springfield and South Dorchester, was held in the High School building, Aylmer, Feb. 6th. There were over fifty teachers present, besides several members of school boards and others. The

following officers were elected:—President, Mr. F. Hammond, Aylmer; vice president, Mr. Wm. Chambers, Springfield; secretary, Miss M. Arnold, Aylmer; treasurer, Mr. Rutherford, Aylmer. Committee, Messrs. Burdick, Warwick and Miller, and Misses Watt, Hoover and Taylor. The subjects discussed were the formation of a teachers' reading circle; Geography, introduced by Mr. Chambers, Principal of Springfield Public School; Grammar, arising out of the question drawer; an essay by Miss Watt on "What assistance should be given to pupils in preparing their lessons?" and "Friday afternoons" by Mr. Hammond. The next meeting will be held Saturday June 5th.

A correspondent of the *Whitby Chronicle*, commenting on the recent Entrance Examinations, says:—Fault should not be found with any board of examiners, but with the present system of examining. In order to get equal justice the same persons should examine all the papers. The expense would not be as great as under the present system. Each examiner gets three dollars per day for watching the candidates and afterwards for valuing their answers. A set of examiners in Toronto would mark all the answers from the Province in less than the aggregate days of the High School boards. Every candidate for entrance ought to pay a fee of at least one dollar for the payment of expense. Some fault has been found with the papers. We do not think the style of questions given too difficult. If the standard were raised and the questions of a more practical nature, it would increase the efficiency of the Public Schools. Let our teachers know what is expected of them, and they are sure to come up to the requirement.

The Toronto School Board has regraded the salaries of their teachers to apply to future appointments, and reorganized the plan of promotion. Lady teachers will have to commence with a salary of \$300, and the maximum after 15 years' service is to be \$636. Promotions will be made for length of service by a fixed annual increase, and not by appointment to classes as heretofore. The appeal of the city lady teachers to be placed on an equal footing, as regards remuneration, with the men who do equivalent work, was not entertained by the Board. It is possible that such a question will be considered in the millenium, or perhaps sooner if lady trustees are elected on the School Board. Why it is that the intrinsic value of a man as a teacher is worth more than that of a woman who does equal work, with equal and often greater efficiency, has to undergo the same amount of training, passes the same examination, obtains equal certificates, and so forth, is a matter that we should like to be enlightened on.

The Kingsville School although universally acknowledged to be in a very low condition when the present Principal took charge has achieved a front place among the schools of the county during the year just close. The Principal is to be congratulated on having passed the largest number of pupils of any school in the south riding of Essex at the entrance examinations during the year 1885 either in proportion to population or to the number of teachers employed. One of the pupils Miss Fanny Drake took the largest number of marks obtained by any pupil at the examination. Also Miss Linnie Scratch, not 12 years old till the middle of March, was the youngest successful pupil under Mr. Maxwell's inspectorate. If any teachers have passed pupils at a less age we should be glad to hear from them. At the Baptist New Year's tree entertainment the Principal was agreeably surprised on being presented with a handsome present from the members of his class.

It is often the case the teacher of country schools finds himself with little or no blackboard surface in the school room. If he asks the trustees to furnish him with these "tools to work with" the usual reply is that the appliances already provided are "good enough for our district," and that the preceding teacher did not think it necessary to make such demands. He is also admonished that he must not be too extravagant in his requirements. In such cases, the teacher must either procure the needed articles at his own expense or do without them. With his meagre salary, he does not care to incur much expense, but he must have blackboards. I have used a blackboard preparation which I find to be a most excellent thing, and much cheaper than liquid slating. I will here give the recipe, which I found in "Lind's Methods of Teaching in Country Schools." "Take equal parts of lampblack and flower of emery, and thin with a mixture of equal parts of benzine and Japan varnish." Two coats applied to a smooth surface will make a good blackboard, and the cost will be very small. B. W. Williams in *Our Country and Village Schools*.

At present about 160 pupils are taught in the Woodstock High

School. Of these, ten are preparing for first-class certificates, twenty-eight for second-class and fifty for third-class; two matriculation in law, one senior matriculation in arts, four for junior matriculation, three matriculation in medicine, six for the Ontario Art School examination. All in the junior forms are pursuing either a general English or Classical course. More than half of those in attendance are from places beyond the town. The previous Head Master, D. H. Hunter, B.A., Toronto University was appointed in Oct., 1881. Mr. Strauchon, previous Head Master, being retained as Classical Master, also Mr. A. D. Griffin, as Mathematical Master, and Miss N. Harrison, Teacher in Drawing. In 1885, owing to the greatly increased attendance, it was found necessary to add another teacher to the staff, and Mr. T. J. Parr, Toronto University, was appointed and to him were assigned the Elocution and Commercial Departments. The excellent work done in the school is evidenced by the high standing of the pupils at the University and Departmental examinations of the past year. Two passed the first year's examinations of Toronto University, one matriculated in law, ten secured second-class certificates, grade A, five grade B, and thirteen third class certificates.

Literary Chit-Chat.

The Citizen is a new journal published in Boston under the auspices of the "American Institute of Civics." This last is a new word coined in much the same way as "politics," "pedagogics," etc. *The Citizen* is a double column, twenty-four page paper. It is well got up and the first two numbers give promise of considerable vigor and ability.

Professor Huxley replies in the February number of the *Nineteenth Century*, to Mr. Gladstone's recent article.

A Washington writer has undertaken to prove that Bacon wrote Shakespeare's Sonnets.

Professor Preyer, of Jena, a prominent psychological writer and investigator, has no faith whatever in mind-reading and has published a long article giving his reasons for his scepticism.

Professor Johnston, of Princeton, N. J., is writing a history of the United States from 1840 to the present time.

Captain Collins, author of "The America's Cup," "Old Sailor Yarus," etc., and at present Yacht Editor of the *New York World*, contributes to the *March Outlook* the first of a series of papers on "Blockade Running during the Civil War." M. J. Burns will illustrate them. It is not generally known that Captain Collins was present at the Monitor and Merrimac fight.—*The Week*.

The views of Henry George on the subject of free trade, which have lately appeared in a syndicate of papers including *The Toronto Globe*, will soon be published in book-form.

A leading writer in a late issue of the *Week*, discussing James Anthony Froude's new book, delivers himself of the following remarkable opinion and prediction. "Mr. Froude accepts with too much complacency, I think, that idea, which the genius of history will one day avenge, that the revolt of the American Colonies in the last century was a justifiable and peculiarly 'English' proceeding. A like argument will some day be used, with bitter emphasis, to justify perhaps another rebellion, which will not be less iniquitous nor less unjustifiable." The writer seems to forget that Froude was writing in the *Nineteenth Century*.

Ginn & Company will publish by September 1st a course of easy lessons in Science, consisting of three small text-books, adapted from the course of Paul Bert, recently Minister of Education in France, and designed for use in common schools.

Correspondence.

TWO WEEKS' WORK.

To the Editor of the CANADA SCHOOL JOURNAL:

DEAR SIR,—Euclid tells us that triangles on the same base and between the same parallels are equal (in area). Now, I have worked day and night for two weeks proving the truth of his theorem, arithmetically.

In the right-angled triangle whose base is 5, perpendicular 12, and hypotenuse 13, if we extend the base and draw through the vertex a parallel; between these parallels and on the base 5 we should suppose there are triangles whose sides are rational and

whose areas are 30. The generalization of the solution of this problem was the task I proposed to myself. I figured till the figures turned red—a beautiful red, but a painful one. The fraction expressing finite sides are in hundreds of millions. I used diophantine analysis in order to get rational values. I do not see its solution is possible without this analysis. I started the problem as a mere recreational exercise of the above analysis, but I would not take \$100 and go through a similar difficulty. Should anyone wish to correspond, my address is,

JOHN IRELAND, Fergus.

THE PENALTY.

To the Editor of the CANADA SCHOOL JOURNAL:

DEAR SIR,—The unpleasant consequences of connecting education with politics in the person of a Minister are often cropping out. Perhaps no clearer example has transpired than that furnished in the correspondence of the *Mail* of Feb. 22nd, where "Junius" makes one of the most shameless attacks on the character of a lady teacher for the purpose of getting a slash at his political opponent. Such a venomous libel would have been almost impossible if educational affairs had not been dragged down into the mire depths of party politics.

Yours truly,
POURY.

Walsingham, Feb. 25th.

AUTHORIZED TEXT-BOOKS.

To the Editor of the CANADA SCHOOL JOURNAL:

SIR,—The repeated interrogations to teachers on the subject of this letter, the threatening of fines and withdrawal of the legislative grant, seem to imply that the teacher has some definite means of obtaining information on this subject; but, if such is the case, I have failed to discover them, although I have been nearly nine years in the profession. Once upon a time a list of authorized text-books was sent to the secretary-treasurer of each school section, but in most cases it has been laid away in some forgotten corner, to be discovered by diligent antiquarians in future ages. When were teachers ever supplied with such a list? Not since I became one; and yet they are the only ones to whom parents apply (sometimes) before purchasing books for their children. We know that the Canadian drawing books are authorized. We are also aware that the new Ontario Readers are authorized—painfully so in the case of the Part I. and Part II. but with regard to the authorization of books (modern books) in other subjects we are left where Moses was when the candle went out. However, we are repeatedly informed that "no part of the legislative grant can lawfully be paid to schools using unauthorized text-books," and that teachers who permit their use are liable to be fined by a magistrate. For several weeks I have been trying to discover what books are authorized in certain subjects. From one source I obtained the information: "The list is not yet out of press"; from another, "There is no change." At last I have received a list published in 1884 from a friend who considered my need to be greater than his. Would it not be better for the Education Department to have such a list printed on the covers of the new registers, so that teachers could possess the latest information on this subject? It is all very well to quote the legal maxim "Ignorantia legis non excusat," but when the teachers are semi-annually confronted with the question, "Are any unauthorized text-books used by the pupils?" I think they have a right to ask, "Which are authorized text-books?"

I am, sir, yours truly,

THOMAS PACKER.

Lake Opinicon P.O., Feb. 20th, 1886.

THE SUMMER HOLIDAYS.

To the Editor of the CANADA SCHOOL JOURNAL:

DEAR SIR,—I was very glad to see an article in your last number in regard to the proposed reduction, by nearly one month, of holidays for our teachers. You treated the question in one line of thought, and certainly fully showed psychological causes why these holidays should not be curtailed—reasons, many of which will be classed among sentimentalisms by the proposers of the scheme, the "Grey Fathers." But, sir, there is another light in which we ought to be allowed to look at the matter, and one in which these gentlemen may possibly be more conversant than in respect to the mental wants or powers of children—I refer to the business side of the question. When an advertisement appears in our papers, the applicant offers his or her services for a definite payment, with a distinct

understanding that the "common custom" of the trade or profession will be adhered to, in regard to length of working hours, unless some special proviso is annexed. A sailor will expect to be on duty for the whole seven days, a clerk for six, and a teacher for five, unless, as above remarked, some exception is made. Now, all our teachers have been engaged, I presume, in this way. I know that it is so in my own case. I have to give ten months' work for a certain fixed sum, say \$360. It seems to me, then, that this amount is due to me on the completion of that duty, and that I should be paid at the rate of \$36 per month for each working month. In order, however, to accommodate the trustees, the work still remains for the period of ten months, but the payments are made to extend over a period of twelve months at the rate of \$30 per month. If I am right in this surmise as to the true reading of the unwritten agreement, I should be glad to know why the teacher is to give another month's service for no additional pay? In what other profession would the employer ever dream of asking such a thing? And yet the proposers consider that "the holidays are too long to pay for the teachers' being idle."

Another practical point is, "Would more work be done in the course of the whole year by either pupil or teacher?" This must be proved in the affirmative before any such change could be conscientiously recommended to the attention of the people of our province.

I strongly suspect that the "Grey Father" who set this ball rolling is troubled with a large family of active and healthy boys, for whom he finds it difficult to obtain means of employment during the latter half of the "long vacation." There is certainly in many cases a just cause of complaint in this respect in many of our households. But carry the idea another step back, and will not these complainers have then a little sympathy for the teacher or teachers who have had to bear ten months' anxiety and worry on account of these very restless beings who tire out their own parents in one month.

In conclusion, Mr. Editor, I can only congratulate ourselves that our "Peel Fathers" have been educated to a higher standard of moral intelligence and appreciation in regard to education, and hope that the teachers throughout the Province will be unanimous in their opposition to this change, unless it comes with their own consent.

I am, Sir, yours faithfully.

A PEEL TEACHER.

Question Drawer.

QUESTIONS.

Editor CANADA SCHOOL JOURNAL.

DEAR SIR,—The following question has appeared in papers set by the Education Department; will you kindly answer it?—

"How do you account for the warmth of summer in our hemisphere, although the earth is farther away from the sun than it is in the winter?"

Bruce Mines.

R. H. C.

DEAR SIR,—Please inform me (if your space allows in your next issue) how to know what books are authorized for the Public Schools, when there are so many which have, at one time and another, been authorized by the Education Department.

Lavender.

W. F. ROACH.

Will music be required from candidates writing for the next entrance examination?

North Augusta.

SEEKER.

1. In giving a promissory note what difference would it make whether you wrote "Bearer" or "Order"?

2. In a note "negotiable by indorsement" would you not indorse it by writing your name upon the back of the note; if so, what is the difference between this and backing it?

Hinch.

A. B.

Kindly answer through the columns of your valuable paper: 1. Whether the Government money can be drawn for the non-resident pupils by the section in which they attend?

2. Can the rate-payers of a section compel the trustees to impose an admission fee on non-resident pupils, or hold them responsible if they do not charge it?

Brighton.

CARTIER.

1. Could you, or your readers, suggest, or frame, a good timetable for a school of five classes, from first to fifth?

2. State how much time per week should be given to each subject usually taught in a country school.

W. H. J.,—Hespeler, and C. B.,—Cranbrook.

1. What is the best work to use to prepare pupils for entrance examination on Orthography and Orthoepy?

2. What is the name of the spelling book now authorized for use in the Public Schools?

3. Will Canadian History be required for entrance examination next July?

Parham.

J. A. B.

ANSWERS.

R. H. C.'s question is one of a class we would like to see more of. We leave it to our readers.

W. F. ROACH.—If you are in doubt about the authorization of a book your school Inspector ought to inform you which is the one agreed on by the trustees and himself for use in your school.

"SEEKER"—Music is not mentioned in the limit of studies for next entrance examination.

A. B.—1. When made payable to "Bearer" the holder may draw the value of the note without endorsement. It is necessary to endorse the note when made payable to "Order."

2. Consult Webster's Dictionary.

"CARTIER."—The school law states that "for all matters affecting the division of the legislative or municipal grants, non-resident pupils shall be reported as attending the Public School of the school section in which they are actual residents."

2. The trustees can act independently, as they decide by a majority of the Board. Few trustees care to advance their own opinions in opposition to the general wish of the rate-payers. So long as their acts are upheld by the law they cannot be held responsible.

W. H. J., and C. B.—We ask the Public School teachers among our readers to furnish a good time-table for an ungraded school of five classes.

J. A. B.—1. On Orthography, Gago's Practical Speller; on Orthoepy, Ayres' Orthoepist.

2. The Canadian Spelling Book, a Companion to the old Ontario Readers.

3. It is not mentioned in the limit of studies. (See last issue of JOURNAL, February 15th.)

Answer to "PEARL," Wallace, N.S., given in No. 1, Jan. 7th, 1836. Simplify:—

$$16 \left(\frac{1}{5} - \frac{11}{3 \cdot 5^2} + \frac{11}{5 \cdot 5^2} - \frac{11}{7 \cdot 5^2} \right) \frac{4}{239}$$

$$\frac{1}{5} = 2$$

$$\frac{11}{3 \cdot 5^2} = 029333333$$

$$\frac{11}{5 \cdot 5^2} = 000704$$

$$\frac{11}{7 \cdot 5^2} = 000020114$$

$$+ 200704$$

$$- 029333447$$

$$= 171350553 \times 267776$$

$$\text{Ans. } \frac{16 \times 4}{239} = \frac{267776}{239} = 1120364$$

I have not seen this sum in the book, but suspect it wrongly given, either by "PEARL" or by the JOURNAL.

N+Y.

Solutions to question given by "KIRK" in JOURNAL No. 3, Feb. 1st, 1836:—

1. Difference in time of completion according as the boy or the man commences the work = $\frac{1}{2}$ day; then it is evident that the man does just twice as much in a day as the boy does; hence together they do $\frac{1}{2} + \frac{1}{2} = 1$ in 1 day.

\therefore they will finish the work in $\frac{1}{2}$ or $4\frac{1}{2}$ days. —HUBERT.

2. The boy does the work in 13 days, \therefore the boy does $\frac{1}{13}$ of the work in 1 day.

The man does $\frac{1}{2}$ day's work more than the boy. \therefore the man does $\frac{1}{2} + \frac{1}{13} = \frac{7}{13}$ in $\frac{1}{2}$ a day, or the man does $\frac{7}{13}$ in 1 day. The man and boy do $\frac{1}{2} + \frac{7}{13} = 1$ in 1 day.

\therefore they do the work in $\frac{1}{2}$ or $4\frac{1}{2}$ days.

"SUBSCRIBER," Nova Scotia.

3. Since it takes half a day longer to complete the work when the boy works the first day, the man must do twice as much work each day as the boy.

∴ the boy in 1 day does $\frac{1}{3}$ of the work, and the man in 1 day does $\frac{2}{3}$ of the work.

Both in 1 day do $\frac{1}{3}$ of the work

Both do $\frac{1}{3}$ in 1 day

Both do $\frac{1}{3}$ in $\frac{1}{2}$ day

Both do $\frac{1}{3}$ in $\frac{1}{2}$ days = 4 days. Ans.

R. H. C., Bruce Mines.

4. Use the symbols, b for one day's work of boy, and m for one of man. Then the series of alterations stand thus :—

1st.— $b, m, b, m,$, etc.

2nd.— $m, b, m, b,$, etc.

Take the first b from 1st., and the two series now are similar, but 2nd. is $\frac{1}{2}$ of one of the symbols longer. (See question).

But a symbol b was taken from the 1st., ∴ this b must form the equivalent for the extra half symbol of the 2nd.

Now it is evident this extra $\frac{1}{2}$ symbol cannot be $\frac{1}{2}b$, for then b would be equal to $\frac{1}{2}b$, ∴ it must be $\frac{1}{2}m$, that is $b = \frac{1}{2}m$, or 1 day's work of boy = $\frac{1}{2}$ day's work of man. The remainder of the solution is unnecessary.

A. P. W., Simcoe.

In No. 37, Oct. 15th, 1885. "STUDENT" gave the following equation. It was not original, as we recollect having seen it some years ago. Our readers favored us with various solutions and "STUDENT" seemed satisfied, judging from his silence. We have seen another solution, which we clip from an American contemporary, *The Moderator*, and as it appears to be very neatly worked we reproduce it for the entertainment of our mathematical friends :

$$x^2 + y = 7 \quad (1)$$

$$x + y^2 = 11 \quad (2)$$

$$y = 7 - x^2 \quad (3)$$

$$\text{squaring} \quad y^2 = 49 - 14x^2 + x^4 \quad (4)$$

$$\text{substituting in (2)} \quad x + 49 - 14x^2 + x^4 = 11 \quad (5)$$

$$\text{arranging} \quad x^4 - 14x^2 + x + 38 = 0$$

$$\text{factoring} \quad (x-2)(x^2+2x^2-10x-19)=0$$

$$\text{dividing by 2nd factor} \quad x-2=0$$

$$x=2$$

$$y=3$$

J. M. BALLOU, Otsego.

The following problems, for which I have solutions, will, I think, be found useful to those preparing for teacher's examinations.

Factor :—

$$\text{I. } a^2(b-c)^2 + b^2(c-a)^2 + c^2(a-b)^2.$$

$$\text{II. } a^2b^2(a-b) + b^2c^2(b-c) + c^2a^2(c-a).$$

$$\text{III. } a^2(b-c) + b^2(c-a) + c^2(a-b).$$

$$\text{IV. } ab(a-b)^2 + bc(b-c)^2 + ca(c-a)^2.$$

$$\text{V. } (a-b)^2(b-c) + (b-c)^2(c-a) + (c-a)^2(a-b).$$

W. W. IRELAND, Pefferlaw.

Teachers' Association.

NORFOLK.—The teachers of Norfolk met at Simcoe on Thursday and Friday, the 4th and 5th February. There was a large attendance both days. Dr. McLellan took up the subjects of "Literature," "The Art of Questioning," and "The Training of the Language Faculty," and on Thursday evening he lectured to a large audience of teachers and others on the subject "Critics Criticised." His services throughout were highly appreciated by all. In addition to the foregoing, some good work was done by the teachers of the county. Mr. W. A. Phillips took up "Simple Equations" (with a class). A. G. McKay, M.A., gave a valuable paper and drill on "Orthoepy and Phonic Spelling." Mr. J. L. Buck contributed an excellent paper on "Discipline." Mr. E. H. Carpenter, in his address on "Music in Schools," gave some good hints on the subject. Probably the impression made by this address influenced the teachers in their choice of a President for the year. D. S. Paterson, B.A., very profitably discussed some extracts from one of the educational works in the Institute library. Dr. Wadsworth, I. P. S., gave a practical and timely address on "The Teaching of Writing." The Question Drawer was in charge of Messrs. J. T. Carson and A. Bridge. The treasurer's report showed a balance of \$60 on hand. The following officers were elected:—President, Mr. E. H. Carpenter; vice-president, Mr. A. C. McKay, M.A.; secretary, J. W. Stitt; treasurer, W. H. Smith; corresponding secretary, Miss E. Wells; delegate to Provincial Association, Dr. Wadsworth.

Literary Reviews.

INTRODUCTION TO THE LANGUAGE AND VERSE OF HOMER. By Thomas D. Seymour, Professor of Greek in Yale College. (*Dos ut. Ginn & Co. any, 1884.*) p.p. 101. Cloth 60 cts. Paper, 45 cts. This book is one of the "College Series of Greek Authors." It deals principally with Homeric style and syntax, dialectic forms and metrical peculiarities. The work will be perused with deep interest by every classical reader, although every page is readable, the chapter on Homeric Style is the most valuable and attractive. We know of no treatise that deals with the subjects of this little book with equal clearness and attractiveness. No student of Homer, to say nothing of teachers of Homer, can afford to be without it.

PLATO'S APOLOGY OF SOCRATES; AND CRITO. Edited by Louis Dyer, assistant Professor in Harvard University. Boston: Ginn & Co. 1885. 204 p.p. Cloth \$1.25, Paper, 95cts. This is another book of the already famous "College Series." It is a scholarly Introduction of 54 pages which gives a brief sketch of Greek philosophy, an account of Socrates' life and character, a well written life of Plato, analysis of the "Apology" and the "Crito," and a valuable addendum on the Athenian Courts of Law. The foot-notes are neither too many nor too few. The text, as in all the books of this series, it is a delight to behold. No myopia can follow the study of these "College" books.

EUCLID'S BACCHANALS. Edited by J. T. Beckwith, Professor in Trinity College. Text Edition Boston: Ginn & Co., 1885. p.p. 54, Paper 20 cts. This little work also belongs to the "College Series." It contains only the text of the play and is intended for use in the classroom and at examinations. An edition with notes is also published similar to the "Plato." Ginn & Co. are giving a new and rich lease of life to classical study in America by the neat and scholarly publications which they are pouring out.

OUTLINES OF MEDIEVAL AND MODERN HISTORY 749 p.p. by P. V. N. Myers M.A. Ginn & Co. Boston. \$1.60; Introduction. Teachers who daily read this excellent book will catch the rare charm of its simple, graphic, yet thoroughly judicial style. They will soon get hold of the typical method of treating history so as to make it a living power in their classes, and will insensibly acquire from it the art of weaving the essentials of an outline into well connected and descriptive narrative. After careful examination we pronounce this the best school history of the kind that has been brought to our notice. It has indeed great excellencies. The maps and the typography are superb, but the general style of the matter rivals Freeman's best writing and is a model of excellence. The story is brought down to 1885 and the closing pages on "The New Age" are of special interest.

BARNES HISTORICAL SERIES, A BRIEF HISTORY OF THE UNITED STATES. A. S. Barnes & Co., New York & Chicago; Williamson & Co., Toronto. 12mo. Illustrated. 362 p.p. 1885. Price \$1.25.

Unlike the great majority of brief "histories" this book can be read. It is an astonishing fact that though designed for a School History there is in its substance, its style, its method, its pictures and its maps that which chains the attention of him who opens it, be he old or young. It is a difficult thing to condense history without robbing it of all human interest. The dead past is dead. Talk of its heroes, its conquerors, its thinkers, its knaves or its fools as we may, earth and ashes is all that is left of them. "The dull cold ear of death" heeds not our censure or our praise. When we sympathize with historical characters, we are the victims of an illusion. Our hearts warm, our admiration is kindled, but it is all for a shadow and the transient emotion vanishes as our self-consciousness asserts itself. So too even the great struggles of history are now dead issues. The momentous result fought for by our forefathers is no longer in the dim and cloudy future. The event has issued forth from the womb of time and the problem has become a fact.

To write history therefore a scenic artist is needed, one who can people our imagination with the shapes of things that once were, that can clothe the bleaching bones of Ezekiel's Valley, and rouse oblivion from her long, long sleep. Parkman, Macaulay, Prescott, Carlyle, have done this. But to accomplish it in a brief short history is possible only in a minor degree. The canvas is too small for the picture.

Another element in history is perspective; to obtain a just view of a wide landscape we must look at it from a distance. Montreal must be viewed from the mountain. Hence it is that writers such as those named do not give just historical news. The reader of the "Jesuits in North America" or "The War with Pontiac" has very shadowy notions of the comparative importance of the scenes so vividly depicted. It is in this respect that the "Brief History" before us is especially valuable. The whole history of the United States is divided into six great epochs: 1. Early Settlement, 2. Progress of the Colonies, 3. The Revolutionary War, 4. Development, 5. The Civil War, 6. Reconstruction. The events of each epoch are grouped so as to present to the student a clear view of their relative importance.

Nor is Geography, the handmaid of history, neglected. A large number of very beautiful maps and diagrams of battle-fields are supplied rendering it easy for the reader to keep the sense of locality constantly present with him as he reads. There are also numerous illustrations most of which are of artistic value. There is also a blackboard analysis of each epoch, which would be very useful to teachers. The notes scattered copiously through the work are very interesting and the appendix contains the "Constitution of the United States." The book is beautifully bound in cloth and gilt and is certainly a very complete and attractive volume.

The defects are such as only a foreigner would notice. The American Eagle is not a modest bird, nor a truthful one. We have always regarded Lundy's Lane and Queenston Heights as Canadian victories. This History however throws new light on the matter and claims the victory for the Americans. So with other battles, the Eagle carries all before him. The American Nation is big enough and strong enough to render this tonic of lies superfluous. The moral health of young America hardly needs this false puff longer.